

WHAT IS CLAIMED IS:

1. A method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode, comprising the steps of:

providing a thin film-shaped porous electrode comprising an electrochemically active substance; and

reducing the pressure inside the porous electrode.

2. A method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode, comprising the steps of:

coating on an electrode surface of said thin film-shaped porous electrode a polymerizable compound which is converted to a solid polymer electrolyte or a pre-solid polymer electrolyte upon polymerization; and

reducing the pressure inside the porous electrode after superposing the electrode surface coated with the polymerizable compound onto said solid polymer electrolyte film.

3. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode as claimed in claim 1 or 2, wherein said solid polymer electrolyte film has an ion conductivity at room temperature of 10^{-5} S/cm

or more.

4. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode as claimed in any one of claims 1 to 3, wherein said solid polymer electrolyte film contains a cross-linking polymer having a urethane bond and an oxyalkylene group.

5. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode as claimed in claim 2, wherein said polymerizable compound coated on the electrode has a urethane bond and an oxyalkylene group.

6. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode as claimed in any one of claims 1 to 5, wherein said solid polymer electrolyte film is obtained by polymerizing a composition comprising a solvent having dissolved therein a polymerizable compound.

7. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode as claimed in any one of claims 1 to 5, wherein said solid polymer electrolyte film is obtained by polymerizing a composition comprising a solvent containing an electrolyte salt having

dissolved therein a polymerizable compound.

8. A method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode, comprising the steps of:

coating a polymerizable compound which converts to a solid polymer electrolyte or a pre-solid polymer electrolyte upon polymerization on an electrode surface of a laminate film comprising a film base material and a film-shaped porous electrode on the film base material;

reducing the pressure inside the electrode after superposing the surface coated with the polymerizable compound onto said solid polymer electrolyte film; and

peeling off said film base material.

9. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode, as claimed in claim 8, further comprising the step of polymerizing the polymerizable compound after the step of reducing the pressure inside the electrode.

10. The method for manufacturing a composite of a solid polymer electrolyte film and a thin film-shaped electrode, as claimed in claim 8 or 9, wherein the film base material has a metal or metal oxide coating, on which said film-shaped porous

electrode is provided to form a laminate film.

11. A method for producing a battery, comprising the step of:
providing a composite of a solid polymer electrolyte film
and an electrode obtained by the method as claimed in any one
of claims 1 to 10; and
impregnating under reduced pressure the electrode in said
composite with an electrolytic solution.

12. The method for producing a battery as claimed in claim
11, wherein the electrolytic solution comprises a polymerizable
compound and an electrolyte salt and the polymerizable compound
is polymerized to cure after the impregnation under reduced
pressure.

13. A method for producing a battery, comprising the step of:
providing a composite of a solid polymer electrolyte film
containing no electrolyte salt and an electrode as claimed in
claim 6; and
impregnating the electrode of said composite with an
electrolytic solution under reduced pressure.

14. The method for producing a battery as claimed in claim
13, wherein the electrolytic solution comprises a polymerizable
compound and an electrolyte salt and the polymerizable compound

is polymerized to cure after the impregnation under reduced pressure.

15. A method for producing a battery, comprising the step of:
providing a composite of a solid polymer electrolyte film containing an electrolyte salt and an electrode as claimed in claim 7; and

impregnating the electrode of said composite with an electrolytic solution which has a concentration of an electrolyte salt greater than a concentration at which the electrolytic solution has a maximum ion conductivity.

16. The method for producing a battery as claimed in claim 15, wherein the electrolytic solution comprises a polymerizable compound and an electrolyte salt and the polymerizable compound is polymerized to cure after the impregnation under reduced pressure.

17. A battery obtained by the method as claimed in any one of claims 11 to 16.